



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

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OFFICE OF
AIR AND WASTE

September 9, 2016

Mr. Jack Spicuzza
Director of Environmental Remediation
Univar USA Inc.
9370 Pratolino Drive
Dublin, Ohio 43016

Re: EPA Comments on Capture Boundary Assessment and Groundwater Extraction Evaluation-
Univar USA Inc. (the Report)
Administrative Order on Consent under the Resource Conservation and Recovery Act
U.S. EPA Docket No. 1087-10-18-3008(h) / Facility ID No. OR 00922 7398 (RCRA Order)

Dear Mr. Spicuzza:

The U.S. Environmental Protection Agency Region 10 has reviewed the above-referenced Report, dated June 2016. The primary purpose of the Report is to present an evaluation of the Pump & Treat System (P&T System) in place at the Univar Portland site to improve mass removal through groundwater capture and extraction.

While the capture zone analysis portion of the document is generally well done, based on modeling described in the Report, the Report does not meet the requirements of the RCRA Order. The Report seems to be a combination of a capture zone analysis and proposed major changes to the P&T System, which requires further discussion with the EPA. Per the RCRA Order Scope of Work, the Report must be revised and resubmitted as a P&T System Performance Evaluation (P&T Report), with revisions made in accordance with the enclosed comments. The revised Report must also provide detailed explanations for any recommended modifications to the P&T System. Univar must submit the P&T Report within thirty (30) days of receipt of this letter.

EPA and Univar will discuss any necessary modifications to the P&T System to achieve remedial objectives, based on a comprehensive and complete EPA approved P&T Report. Should modifications to the P&T System be warranted, Univar will be required to submit a detailed work plan for EPA approval. If you have any questions, please contact me by phone at (503) 326-5020 or by e-mail at Blankenship.Melissa@epa.gov. The site attorney Bob Hartman may be contacted with legal questions at (206) 553-0029 or by e-mail at Hartman.Bob@epa.gov.

Sincerely,

Melissa Blankenship, Project Manager
Office of Air and Waste

Enclosure

cc: Mr. Brendan Robinson (via email w/enclosure)
ERM-West, Inc.

Mr. Erik Ipsen (via email w/enclosure)
ERM-West, Inc.

Ms. Alex Liverman (via email w/enclosure)
ODEQ

Ms. Mer Wiren (via email w/enclosure)
ODEQ

Capture Boundary Assessment and Groundwater Extraction Evaluation Report
Univar USA Inc.
EPA Comments

General comments are followed by specific comments.

General Comments

1. The Report must be resubmitted as a Pump & Treat System (P&T System) Performance Evaluation Report (P&T Report) as specified in the RCRA Order Scope of Work. The P&T Report shall include the principles outlined in the EPA Guidance Document entitled *Elements for Effective Management of Pump and Treat Systems*, OSWER 9355.4-27FS-A, November, 2002. The Report contains some but not all of the required elements. The goal of the performance evaluation is to determine whether extraction rates and/or well locations need to be modified based upon the capture zone analysis results, and how these results indicate that changes will achieve remedial objectives. The recommended modifications need to be discussed between EPA and Univar. Once necessary modifications are agreed upon, a detailed work plan including a comprehensive timeline associated with how the transition will occur between the extraction wells and an approvable schedule detailing options and potential changes that consider real-time data obtained, while gradually transitioning from one set of wells to another, must be submitted. In addition, the work plan must contain a monitoring strategy that includes taking water level measurements in surrounding wells and water quality samples from each well throughout the transition to verify model predictions presented in the Report.
2. It is unclear why May 2013 data were used for the model when more recent data sets are available which demonstrate changed concentrations (especially in the northern portion of the site). It is also unclear how using a time frame of 100 years is relevant to what is occurring at the site now or in the near future. These issues need to be fully documented and explained in the P&T Report.
3. The Report focuses quite a bit on National Pollutant Discharge Elimination System (NPDES) permit "maximum flow rates", but maximum flow is only one of the many factors that must be considered while planning for modifications to the P&T System. As mentioned in comment 1 above, the timing and sequencing of modifications to the P&T System must also be considered. Univar must coordinate with the appropriate staff at Oregon Department of Environmental Quality (ODEQ) to understand how the concentration and pumping rate limits would impact the ability to pump with the proposed modifications to the P&T System while maintaining compliance with the NPDES permit for the facility, if necessary.
4. The Report includes several appendices with the contoured constituent of concern (COC) data from different periods – 1990's data from HLA consultants, 2000's data from PES consultants, and post-2013 data from ERM. This information is necessary to help evaluate system performance and help us to better understand any potential modifications. These figures are very good and should be incorporated into the P&T Report. In addition, the Particle Tracking

Analysis (Figures 23 & 24) offers a good picture of the possible modeled outcome of the pumping options in general and should be incorporated into the P&T Report.

5. Be as consistent as possible with the terminology that is used in this and future documents. COCs, volatile organic compounds (VOCs), and chlorinated volatile organic compounds (CVOCs) are used interchangeably throughout the document. If there is a reason for the different terminology it must be clearly articulated in the document and in the list of acronyms.

Specific Comments

1) Section 1.1 Background, page 2

- a) The Report states that well EXW-5a located near the south end of the loading dock, was installed in March 2007 as a planned expansion to the P&T System, but it has not yet been activated due to concerns regarding Light Non-Aqueous Phase Liquids (LNAPLs) near the well. A detailed explanation of the concerns must be documented in the P&T Report.
- b) The Report also states that well EXW-5a is a point of groundwater extraction that could potentially cut off the groundwater VOC plume. List the constituents that comprise the southern VOC plume. Provide current isoconcentration maps that show the extent of individual plumes for: tetrachloroethene, trichloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, methylene chloride, benzene, toluene, ethylbenzene, total xylene and vinyl chloride. Provide documentation to support the conclusion that EXW-5a could cut off the VOC groundwater plumes.

2) Section 2.0 Shallow Groundwater Conditions, page 4

Explain how May 2013 groundwater data represents current site conditions.

3) Section 2.2.1 Groundwater Extraction Well Performance, page 6-7

- a) The P&T Report must include the February 2013 video of the EXW-3a well inspection or at minimum some still photos from the video, documenting the structural integrity of the well.
- b) One of the reasons cited as causing poor performance of EXW-3a is “an inadequate screened depth interval (limited to 5 feet).” Explain why this is an issue of concern.

4) Section 2.2.2 Groundwater Analytical Results, page 7-8

- a) The Report states that in the southern portion of site, COC concentrations are generally below cleanup levels. Explain what “generally below” means. Identify the COCs that exceed cleanup levels.
- b) According to the Report, pumping activity at EXW-2 is pulling contaminants from the source area and should be discontinued. Refer to a table with the data and a figure/figures that support this assertion. Describe how this will be mitigated through the proposed modifications to the P&T System and specifically, how EXW-5a would effectively replace this well.

- c) The Report states that low level and non-detect concentrations of CVOCs in the boundary of well SMW-11 and non-detect concentrations in the offsite well SMW-27 indicate that COC degradation is occurring in the area around EXW-4a (located at the northern end of the site), and pumping from that well remains unnecessary. Define what “in the boundary” means specific to SMW-11 and describe what is meant by the “area around EXW-4a”. Identify the data trends and figures to present that support these conclusions. To document natural attenuation, show that CVOC compounds are degrading all the way down past vinyl chloride or chloroethane, to ethane or ethene, prior to off-site migration of groundwater. Univar must monitor for a number of Monitored Natural Attenuation (MNA) parameters (see below), and document that there is no increase/migration in discharge of contamination outside of the capture zone.

Use of MNA concepts must be based on EPA Guidance documents.

Suggested documents include:

- OSWER Directive 9200.4-17P,
- *Performance Monitoring of MNA Remedies for VOCs in Ground Water*, EPA/600/R-04/027 April 2004,
- *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites* (U.S.EPA, 1999),
- *Performance Monitoring of MNA Remedies for VOCs in Ground Water*, EPA/600/R-04/027 (Pope et al., 2004).
- *An Approach for Evaluating the Progress of Natural Attenuation in Groundwater*, EPA 600/R-11/204, December 2011.

Univar must propose a monitoring plan to demonstrate that MNA is occurring before the contaminants reach site boundaries, based on the guidance.

5) **Section 3.1 Contaminant Distribution**, page 10

Based on ERM’s review of isoconcentration maps through 2013, concentrations of primary or parent chlorinated compounds are centered in the source area near SMW-7 and generally increase radially and downgradient. Downgradient is in two different directions at this location according to the isoconcentration maps. Refer to a figure that shows what is being described here, and document what this means in terms of the proposed modifications to the P&T System.

6) **Section 3.3 Target Capture Boundary**, page 11

Present current information regarding the distribution of COCs and target capture boundaries in terms of distribution of chlorinated compounds (generally located in the northern portion of the site) vs. non-chlorinated compounds (generally located in the southern portion of the site). This section must include information beyond general discussions and contain figures and tables that illustrate the concentrations for each COC and show how they are distributed currently, especially considering the decreased performance of EXW-3a and pumping activity at EXW-2 may be pulling contaminants from the source area.

7) **Section 4.1.2** Extraction Well Properties, page 13

A surge-block was used to recondition each well. Surge blocks are not the optimal solution for re-development of a well for the intended purpose. Document whether a more aggressive method of reconditioning has been considered for the wells.

8) **Section 4.3** Groundwater Model Results, page 15

The groundwater model was run for a period of 100 years for two pumping scenarios to evaluate hydraulic capture. Explain why the 100 year timeframe was selected and what that will tell us relative to the much shorter time scales relevant to this site. Explain modifications and transitions over a period of weeks to months and how the model will support the short-term transition anticipated for proposed modifications to the P&T System.

9) **Section 4.3.1** Transition Pumping Scenario, page 16

Show and discuss the estimated timeline to discontinue operation of EXW-3a. It seems necessary to continue pumping that well while transitioning to EXW-1, which is proposed to effectively replace it. As mentioned above, monitoring will be necessary to verify what the model predicts. It is also important to discuss monitoring to confirm that there will not be impacts to the well or the treatment plant if the higher concentrations of LNAPL near EXW-5a do come into the well and treatment system. Higher concentrations of LNAPL near EXW-5a have been used as the rationale for why this well has not been turned on previously, and must be considered.

10) **Section 4.3.2** Modified Pumping Scenario, page 17

- a) The modified pumping scenario involves pumping from EXW-1 at 12 gallons per minute (gpm) and from EXW-5a at 3 gpm. Pumping rates were set according to the observed extraction well production flow rates and according to discharge rate requirements under the NPDES permit, which is 23 gpm from October 1-May 31. The text doesn't address compliance with the 14 gpm limit from June to September.
- b) Univar asserts that operation of EXW-1 will result in a "capture zone that includes plume extents in the vicinity of EXW-3a". Explain what "plume extents" means.

11) **Section 5.0** Recommendations, page 18

- a) Explain the proposed process and timeline for the transition from pumping EXW-3a to pumping EXW-1 and from pumping well EXW-2 to pumping EXW-5a. At a minimum, provide information about: 1) the transition from pumping EXW-2 to pumping EXW-5a only, 2) how the contaminant plume will be controlled while transitioning from pumping EXW-2 to pumping EXW-5a only, 3) the transition from pumping EXW-3a to EXW-1 only and 4) how the contaminant plume will be controlled while transitioning from pumping EXW-3a to pumping EXW-1 only, 5) how all of the transitions will occur in concert with each other, and 6) how the proposed modifications could impact the treatment system (e.g. consider rate of groundwater intake, contaminant concentration input, rate of discharge, etc).

- b) Provide a figure with current data that shows EXW-4a would pull contaminants to the north end of the site. Consider a pumping scenario that includes pumping EXW-4a at an appropriate rate to help contain the contaminants in the northern portion of the site while simultaneously transitioning between pumping EXW-3a to pumping EXW-1.

12) Section 6.1 Transition Extraction Scenario Implementation, page 19-20

- a) Describe how the wells would be “turned on” without compromising the current operation of the treatment system and maintaining compliance with NPDES discharge requirements. EPA expects that there would be a multifaceted incremental transition from the existing pumping wells to new pumping wells.
- b) Any important modifications to the current P&T System must be proposed to EPA in the form of a work plan modification/amendment and reference the RCRA Order, and is subject to approval by EPA.
- c) Provide an adaptive management plan that includes potential/anticipated adaptive management activities/strategies for the P&T System at the site, should issues arise.
- d) Define “sufficient treatment ability” relative to the increase in VOC mass loading to the treatment system with the proposed modifications.

13) Section 6.2 Modified Scenario Extraction Implementation, page 20

Univar must document compliance with the NPDES permit during both seasons specified in the permit and, if necessary, coordinate the proposed P&T System modifications with the appropriate ODEQ staff.

14) Section 6.3 Extraction Well Performance Monitoring, page 20-21

Performance monitoring must include the monitoring of groundwater levels in surrounding monitoring wells and sampling COCs from the extraction wells.